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Secondary buy-outs mechanisms and performances

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Secondary buy-outs mechanisms and performances: a quantitative analysis of operating efficiency, profitability and return on investment

by

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Abstract

In this paper we provide a description of secondary buy-outs mechanisms, and their evolution in regards to first round buy-outs. While some additional motives are identified, introducing the possibility of performance improvement through the change in ownership structure, we analyse the evolution of some performance indicators. We scanned a 6,633 UK secondary buy-outs database between 2000 and August 2010, as to identify a 108-exited secondary buy-out sample (2000-2009 period). We find conclusive evidence that operating performance, profitability and return on investment changes from first round buy-outs to secondary buy-outs are negative. However secondary buy-outs still out-perform industry peers. Positive influence of private equity backing remains in secondary buy-outs. Nevertheless similar impact of private equity syndication is limited – it only seems to significantly increase resort to leverage. We also identified – in a limited extent – the negative first round buy-outs' length relationship and the positive secondary buy-outs' length relationship with secondary buy-outs performance indicator. This suggests that exit through secondary buy-outs only takes place if neither flotation nor trade sale are possible. In addition, the more time allowed for secondary buy-out mechanisms implementation, the greater operating performance and profitability improvements.

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INTRODUCTION

Throughout practical and academic research conducted during the 80s and 90s – corresponding to the first wave of buy-outs – a good understanding of buy-outs motives and mechanisms has been developed. Exits from such ownership structures present different alternatives. While in past decades, secondary buy-outs were considered an exit opportunity to distressed first round buy-outs, such perceptions have evolved. In the last decade, resorts to secondary buy-outs were much more frequent, creating a true enthusiasm towards this new exit alternative. Many interrogations were raised on new determinants to such ownership structure; however the understanding of secondary buy-outs motives is still limited.

This paper will present secondary buy-outs motives and mechanisms, as well as to what extent they differ from first-round buy-outs. Indeed, some motives are strengthen through the change in ownership enabling secondary buy-outs managerial team to take advantage of these additional mechanisms as to increase firms' performance indicators. Through empirical analysis of our 108 UK exited secondary buy-outs, we wish to measure the change in performance indicator from first round buy-outs to secondary buy-outs. Performance indicators computed are regrouped into six categories: leverage, operating efficiency, profitability, return on investment, liquidity and solvency. We then assess the impacts first round buy-out length, secondary buy-out length, private equity backing and syndication – have on secondary buy-outs performance in regards to their industry peers.

The paper is organized as follows. A description of buy-outs and secondary buy-outs; our literature review, theories and hypothesis; our data; our methodology; our univariate and multivariate analysis; and finally the conclusions we reached.

BUY-OUTS AND SECONDARY BUY-OUTS DESCRIPTION

Considering the limited literature on secondary buy-outs and their recent development, many questioning regarding their functioning have been raised.

Secondary buy-outs offer a new ownership structure including, typically, a new set of private equity financiers while the original financiers and possibly some of the management exit (Cumming et al., 2007). While successful deals were exited though flotation and trade sale, secondary buy-outs were limited to some distressed transactions exits. However in the five years up to the collapse of the buy-outs market, private equity investors have increasingly sought exit by selling initial buy-outs to other private equity firms in secondary leveraged buyouts (Bonini, 2010). According to Bonini, the total volume of secondary buy-outs has increased over 10 times with diminishing equity contribution and debt cost.

Nikoskelainen and Wright (2007) as well as Jelic and Wright (2009) identified the rate of return of the different exit alternatives. The first study treated 321 UK buyouts exited between 1995 and 2004 and found out that buy-outs exited though flotation procured an internal rate of return of 137%, way ahead of trade sales (23%) and secondary buy-outs (10.5%). Jelic and Wright (2009) analysis of UK 1,225 buy-outs during 1980-2004, identified that exited via flotation earned 42% and also clearly outperformed trade sale (24%) and secondary management buy-outs (23%).

Secondary buy-outs brought an additional exit opportunity to private equity firms. Offering a middle range alternative below the traditional and strived flotation or trade sale (Bygrave et al., 1994). Empirical analysis clearly identified flotation and the sale to a third party – trade sale – as the preferred exit alternatives from buy-outs and buy-ins (Robbie and Wright, 1996, Wright et al., 1993) – evident from results previously presented. The ideal exit plan would be for successful firms to exit by flotation or trade sale after 3 to 5 years of buy-out. As, after that time, they apparently are the most attractive to stock markets and large corporate investors (Relander et al., 1994; Bygrave et al., 1994). Such consideration influences investors' initial decisions, which are likely to prefer those firms as they are expected to meet their target rate of

return within a given time horizon (MacMillan et al., 1987; Fried and Hisrich, 1994; Wright and Robbie, 1996). However such ideal exits only represent a limited proportion of the exits routes. Explaining why, even if usually agreed before the deal has been carried out, venture capital firms tend to be flexible about their exit route; keeping it under review as the company develops (Relander et a., 1994).

Firm's investors including both private equity and the management want to maximise their return on investment (Jensen 1989). Returns of investment from their portfolio of companies is vital to venture capitalists' and private equity investors' reputation (Barry et Al. 1990; Cumming and MacIntosh, 2003; Das et al., 2003). Their reputations based on returns obtained are their major argument to raise capital for subsequent funds.

Industry difficulties may have a negative impacts on firms' restructuring, it may even unable it. In this situation, venture capital investor would not be able to respect their schedule, postponing the exit date. This delay would be explained by the unattractiveness of the company to external investors and consequently the impossibility to introduce the firm on stock markets and/or to sell it to a third party for a desired price. It is in such circumstances, especially when venture capital investors face time pressure, that secondary buy-out demonstrated their advantages. Indeed, private equity and venture capital funds as closed-end funds, beneficiate from a limited life expectancy. Fund's managers must, before this deadline, exit their investments as to pay their limited partners. Secondary buy-outs give managers the possibility to liquidate fund's remaining ownership shares in companies that have not reach their maximum potential and still present growth, value or strategic opportunities to external investors. An interesting issue developed by Wright, Robbie and Albringhton (2000) concerns the reasons why other venture capitalist will be attracted to investing in companies from which the initial venture capitalist is exiting. They quote the asymmetric information argument introduced by Admati and Pfleiderer (1994), which states that venture capitalist investors will be suspicious of the motives of others venture capitalists whishing to sell.

Wright, Robbie, and Albrighton (2000), through empirical analysis of 182 UK secondary buy-outs, found out that the average age, at which first buy-outs became secondary deals, was a little over 6 years. Secondary buy-outs average occurs 30 months after floats and two years after trade sales would be expected. These results support the idea that secondary buy-outs and buy-

ins often happen when alternatives preferred exits are not possible. Statement supported by the previously presented samples' respective internal rate of return of different exit alternatives.

Regarding the private equity team, secondary buy-out transactions involve a whole, partial or inexistent change of this latter. An often-observed change is when part of or the complete venture capital investors exit the investment as they are seeking to beneficiate from an immediate return on investment. In such a situation, subsequent or additional investors will be welcome to participate into the firm financing, creating a new buy-out – called secondary management buy-out. Similar change could be applied concomitantly to the management team. This latter situation, most of the time, takes place when venture capital investors are disappointed about the managing team's performance and wish to bring in new entrepreneurs. However managers may also resign from their responsibilities or exit for other personal reasons and leave with the value created though their efforts. Such changes usually lead to the restructuring of financial structures and the resulting incentives. Secondary buy-outs and buy-ins may also be implemented if the company needs subsequent round of financing to sustain its growth.

Private equity investors usually wish to exit their investment as soon as possible or at least at the first return satisfying opportunity. While the management team often shares such return oriented concerns, they may better serve their interests though a secondary buy-out. In truth, remaining a private firm enable managers to elude from the scrutiny of stock markets authorities and reduce the threats of takeovers. It would in the same time enable managers to save time writing reports for shareholders and authorities; time they could fully allocate to serve the firm at its best, and in an indirect manner, their own interests. Remaining private may not only serve better managers' financial interests, but also their power and careers. Indeed, flotation or trade sale are usually assimilated to large reorganisation of the tier-one senior management team, or at least the CEO. Petty et al (1994) corroborate this theory to evidence from US entrepreneurial ventures. While trade sales may provide satisfying cash returns to the team in charge, it may not satisfy entrepreneurs' objectives for continued control of an independent business. Secondary buy-outs may only be an appealing exit for the second-tier management team who wish to replace the former tier-one team once they exited.

LITERATURE REVIEW, THEORIES AND HYPOTHESIS

PERFORMANCE, PROFITABILITY AND RETURN ON INVESTMENT OF SECONDARY BUY-OUTS COMPARED TO THEIR FIRST BUY-OUT ROUND

The usual belief is that first round buy-out investors "spruced" all the value from the firm, leaving no possible performance or value improvement to the secondary buy-out investors. However some arguments tend to challenge this belief, introducing additional motives potentially contributing to secondary buy-outs performance improvement in regards to their first round buy-outs. I will first present motives to regular buy-outs.

According to Jensen (1986, 1988), buyouts combine several powerful incentives that increase efficiency and value. These policies include debt obligation due to leverage, active investors and debtors implementing monitoring activities, and managers' equity ownership. Through his *free cash flow theory*, Jensen rationalises leveraged buy-outs and their effects on corporate governance mechanisms. Leverage buy-outs indeed tend to reduce agency costs and increase firm value though improved operating efficiency (Jensen, 1986; Kaplan, 1989a; Kaplan and Stromberg, 2009).

LEVERAGE

The very well known motive for the purchase of a firm by a private equity company is the possibility to *highly leverage* the deal. Leverage and its large resort to debt reduce the share of equity. Investors, regrouping both the private equity fund and the management team, would not have been able to take control of the firm if the deal was not, in majority, financed via debt. Logically, resort to leveraged buy-outs is negatively correlated to costs of debt. Private equity investors take advantage of cheap access to debt to purchase firms and materialise buy-outs. Thought this method, investors are granted

large funds in order to, in a first time, acquire the firm and then invest into it as to take advantage of growth opportunities.

The leverage of the transaction has couples of indirect influences on governance and incentives that we present in the following parts.

ALIGNEMENT OF INTEREST AND INVESTORS MONITORING

Agency cost reduction is enabled though the alignment of managers interests to their investors. In truth, in a firm, managers could be tempted to serve their own interests, investing in many projects – whatever their net present value – as to increase their compensation and establish their personal reputation; these latter being positively correlated to firm's size (Jensen, 1986). However, such situations are most of the time and thanks to governance policies, banned from the private equity landscape. Such alignments of interests are enabled by the management equity ownership increase once the acquisition is completed. Indeed the leverage of the transaction concentrate investors' equity ownership, and management share is strengthened thought the deal completion. While, according to the agency theory, the *free rider* attitude (Kosnik, 1990) is observed though managers opportunism enabled by the diffused ownership of public corporations (Zahra, 1995), taking the firm private will concentrate the ownership and unable executives temptations to control the company. Due to their equity ownership and their compensations being positively correlated to long-term performance, managers' concerns about the company's strategy will be similar to private equity investors. Indeed, "research suggests that the primary source of […] (post-leverage buy-out) gains is new value created through significant operating performance improvements" (Palepu, 1990). Managers will, then, prefer long-term value creating projects as to maximise the company value; they will therefore invest in "creating new business (Seth and Easterwood, 1993), adopting new competitive strategies (Baker ad Wruck, 1989), and increasing their company's overall corporate entrepreneurship" (Zahra, S.A., 1995)

In addition, concentrated ownership enables private equity investors to seat and control the board of directors, which gives them the ability to monitor the management team and control the buy-out firm's strategy. Hence the management team monitoring is supposed to be limited as managerial equity ownership already aligned managers' interests to investors'. Even if, in

secondary buy-outs, private equity investors share of ownership tends to decrease to the advantage of the managerial team, weakening private equity monitoring power, managers' self-monitoring due to their stronger alignment of interests should balance this loss.

Even considering the probable effects of the incentives argument (Jensen), challenging economic forecast concerning the influence of change in leverage as well as the influence in managerial equity have to be considered. For example, as illustrated by (Hothausen and Larcker, 1996): "while increased managerial ownership of the firm's common equity could increase financial performance because the key officers have a greater stake in any value-increasing actions that are taken (Jensen and Meckling, 1976), it is also possible that increased managerial ownership could decrease financial performance due to managerial risk aversion and the potential underdiversification of the managers' wealth (Fama and Jensen, 1985; Morck, Shleifer, and Vishny, 1988)". Then, due to the managing team risk aversion, executives might only consider part of the projects, preferring safer but less profitable investments to risky ones. In such case, once reached a certain percentage of managerial equity ownership, increase in performance should stagnate and even decrease. However Hothausen and Larcker 's (1996) results are consistent with most academics (i.e., Morck, Shleifer and Vishny (1998) and Wruck (1989)) to the extent that equity ownership is positively correlated with performance. Though, managerial equity ownership additional increase in secondary buy-outs may reach a turning point where positive correlation could be reversed.

DEBT

We have seen that buy-outs would not have been completed without banks contributions. Modigliani and Miller's (1958) argument about the indifference, in a perfect market, of sources of financing, has been criticised in many ways. It appears that debt financing has impacts on corporate behaviour. "Debt can help to resolve agency problems that result from the separation of ownership ad control, especially when debt holders are concentrated or when the debt is used to increase managerial equity (Jensen and Meckling, 1985)" (Long and Ravenscraft, 1993). The use of large debt financing to leverage the deal has a direct influence to the post-buy-out company's strategy. The firm must indeed pay interests payment as well as repay the principal in order to serve the debt. As the leverage is high, debt repayment will represent a significant proportion of the free cash flows generated. The financial pressure brought upon the firm and its

management team will motive the organisation to become more efficient, as an inability to serve the debt will lead to the firm's bankrupt. To a certain extend, it also influences projects selected by the management team; they should, as long as the debt needs to be served, prefer cash flow generating projects to value creating projects. Indeed, after the leverage buy-out completion, cash-flow maximisation should be preferred to earning increase (Easterwood et al., 1989)

Due to the large debt used to finance the transaction, managers must employ the organisation to repay the debt and its interests, the latter being deductible from taxes. Considering the significance of the debt and its interests, the company beneficiates from major tax savings. This motive has already been referred as the *value transfer from government* (Kaplan, 1989b; Davis et al. 2008; Kaplan and Stromberg, 2009). Debt increases can create wealth transfers from taxpayers and bondholders to shareholders (Jensen and Smith, 1985). Lowenstein (1985) identified post-buy-outs tax savings as the major source of value in this kind of deals. Due to the large debt contracted and the high interests it involves, buy-outs create a tax shield generating large cash-flows.

It seems that academics possess a limited knowledge of lenders behaviour towards multiple buy-outs and buy-ins rounds of financing, while debtors have a significant influence on private equity deals. Bonini (2010) identified two different ways to interpret the situation: "On one hand, lenders may feel comfortable in providing financing to a second round buyer after a successful first-round deal for an information advantage argument: since they know well the company and its cash-flow potential, providing additional financing is a less risky alternative; on the other hand though, second round deals, may be more subject to the target company's cash flow volatility if value creation is limited or absent, and increasingly so if entry multiples for secondary buyer are significantly higher than those for first round investors. ». Both of these possibilities are observed in the author's sample. Firstly, it has been identified that 40% of secondary deals are being partially or entirely financed by one of the initial debtors. Secondly, a significant increase in debtors' syndication has also been observed. The latter observation illustrates the confidence banks have in this post first-round buy-out firm, but also the consideration of a higher risk - due to a larger size, a higher sale price, and/or limited growth perspective.

Bonini (2010) found out that when the cost of a leverage buy-out deal measured by debt spread and equity contribution, decreases, secondary buy-outs become much more likely. Total debt

tendered to the leverage buy-out industry is positively correlated with the increase in secondary buy-outs. As to produce portfolio returns, when accessibility to debt at cheaper cost has increased, private equity investors have taken advantage of secondary deals. Many investors have thus preferred to target firms generating large cash flows, even if growth perspectives were limited. Both Kaplan (1989) and Shipper and Smith (1988) argue that tax benefits are unlikely to be the entire source of value in management buyouts.

However limitations to the tax shield advantage must be considered. Indeed, Kaplan (1989b) and Renneboog et al. (2007) identified a very high correlation between expected tax savings and premiums paid by shareholders at the buy-out transaction time. This relation minimises the effect of debt and its tax shield, as tax benefits of leverage should be contained in the price paid to exiting investors.

MANAGERS' INFORMATIONAL ADVANTAGE

Lowenstein (1985) argues that managers have information about the company that is not available to other bidders. This may give an information advantage to the management team, which will have a competitive lead toward investors when taking next decisions. As managers possess such private information, they can purchase the company, invest in subsequent financing round at a lower price than the market would ask for. Taking or keeping the firm private should beneficiate the management team if they know that the market undervalues the firm. Some pernicious arguments consider that, as to gain the most from the transaction, managers would undervalue the company's financials. Hence, no evidence have been identify on the possibility that managers deliberately undervalue corporate assets before the buy-out (Palepu 1990). Weir et al. (2005) identified undervaluation as a major rationale for going private.

In the case of secondary buy-outs, theory states it is unlikely that first-financing round private equity investors would discount transaction price from its fair market value. In this situation, second-financing round private equity investors, as well as the remaining management team,

would not beneficiate from an undervaluation advantage. Considering that most management teams remain, either undervaluation exist, either cash-flow growth and value creation perspectives are granted to the new buy-out. Even if the management team does not take responsibilities or share in subsequent financing round, it does not mean that the company is over priced. Managers are probably exiting for personal motives. Growth opportunities should still be available, assuming that the management team in place became risk averse protecting the wealth they have created. Such situation frees growth opportunities for risk taker such as the second-tier management team (Wright, Hoskisson, Busenitz, & Dial, 2001)

Considering the past years economic downturn, most firms have been undervalued by the market which should have been a major motive for managers to keep the firm private as to beneficiate from these massive under pricing. However limited access to debt financing have outbalanced this presupposed motive.

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While the common belief consider that first-round buy-outs will "spruced" all the value from firms, leaving no room for performance increase to secondary buy-outs, our explanations of buy-outs motives suggest that performance could still be improved. Indeed, some of the well-known motives to leverage buy-out deals are still present and probably, most of the time, stronger. Increased debt leverage, concentrated equity, increased managerial ownership and managerial information advantage, are factors which should pull performance and return up. In addition, early private equity funds exits from buy-outs, due to timing pressure created by closed-end funds limited life expectancy, allow investors to believe in secondary buy-outs performance and return increase potential.

To my knowledge, Bonini (2010) is, as to date, the only academic article comparing secondary buy-outs performance to their first-round buy-out. Through his data analysis of 111 European multiple leveraged acquisitions in the 1999-2009 period, he discovered that "secondary buy-outs do not show statistically significant evidence of incremental performance but do generate large and significant jumps in leverage and cash squeeze-out". However his analysis only considers first and second buy-outs performance from a year before to a year after each of the

two transactions. These short windows should not be able to recount the all performance improvement of buy-out rounds. Indeed, a year post transaction seems quite short for management to take the entire advantage of the new structure. For example, if the taxes shield creation has an influence over profits – if not offset via transaction premiums, such influence should remain couple of years considering the significance of debt. In addition, performance improvement through buy-outs incentives and financial structure might be more sudden after the first round of financing than after subsequent rounds. Indeed, as these supposed positive changes are not new but only stronger for secondary buy-outs, effects may be better spread over time or take longer to be observed.

We, in this paper, wish to assess if the first buy-out round does indeed spruced all the value from the firm, leaving little room for performance improvement and return to secondary buy-outs. Considering the time scale limitation (evolution from a year pre to a year post first round and secondary buy-out transactions) applied to the only academic analysis on the subject (Bonini 2010), we will extend the length of both performance analysis and return (we will also consider some additional ratios and compute our change in a different way).

INFLUENCE OF SYNDICATION

To a significant extend, venture capital firms syndicate their investments. This means that two or more venture capitalists share their contribution to the financing of the target firm. Resorts to syndication are driven by numerous motives which vary from case to case.

The very first obvious motive for syndication is known as the *selection hypothesis* or *improved selection,* introduced by Lerner (1994) and covered later by Cumming (2006a). This argument, developed from Sah and Stiglitz (1986) model of organisational design, states that there probably is an advantage in having several venture capitalists evaluating an investment project before every financing round. To do so, the *lead* investor – usually the first and major investor – select other venture capital investors, which bring additional knowledge and opinions into the selection process. Such practices should ensure a better screening of the target from the investors' side, as each investor will learn from its counterparts' evaluation.

However while syndication should reduce agency costs between investees and investors through better screening and selection process (Cumming, 2006a; and Lerner, 1994), it also add agency cost on syndicated members (Cumming 2005). Indeed the lead investor or the investor for whom the investment is the most significant regarding to its funds size has more incentive to monitor the target than the other syndicated members. Investors with low incentives might not monitor properly the investee – such reaction is called the *free-riding behaviour* (Cumming, 2006b). This attitude of the syndicated members will create tension and will not serve the investee to the best. The respective efforts of the syndicated members to monitor will also create information asymmetries. These information asymmetries arise especially when the risk of agency problems is high, as the lead investor will have a major role in monitoring the firm, leaving the other syndicated investors unprotected from incompetent monitoring. To protect themselves from such risks, non-lead investors may write contracts granting them from a veto power on major decisions. In this situation, all syndicated members must agree the decision. When it is evident that syndication creates costs (co-ordination, time consuming…), Lockett and Wright (2003) extrapolate to the notion of risk creation.

The determinant feature leading venture capitalist to syndicate is the ***risk-sharing*** consideration (Lerner, 1994). Whatever the stage of investment, it has been empirically demonstrated that, on the European private equity market, financial risk spreading is the key motive to syndication (Lockett and Wright, 2001; Manigart et al., 2006). Such risk-sharing policy is possible thought *portfolio diversification* (Markovitz, 1952). Proper diversification lowers the variance of return and minimise the risk, while the average return remain the same. While risk-sharing motive due to risk aversion is considered as the main driver to proceed to syndicate investment, it, according to theory, does not influence the rate of returns. However, diversification is costly in terms of money and time; this may lower syndicates' returns.

Similarly to the improved selection process, "syndicated investors are able to take advantage of their specific knowledge and complementary skills as to add more value to the investee company (Brander et al. 2002)" (Meuleman, Wright, Manigart and Lockett, 2009). Considering such statement, from the lead investor point of view, the benefit of seeking syndication is that the value of the project rises if other venture capitalist become involved (Brander, Amit, Antweiler, 2002). Another motive to syndication is the better negotiating power of the syndicate

towards both bank and entrepreneurs, which should provide better financial terms to the syndicate (Anand and Galetovic, 2000; and Hochberg et al. 2002)

While most empirical analysis found out that syndicated projects have higher rate of returns than standalone projects, just like Brander, Amit, Antweiler (2002), no specific study has been conduct on a secondary buy-out sample. The argument that challenges this latter statement is concerning the size of the investment. Indeed, according to statistics, secondary buy-out deals tend to be much larger than average deals, which should influence the decision of the investors. According to Jelic and Wright (2009)'s analysis of UK 1,225 buy-outs during 1980-2004, secondary management buy-outs tend to be the largest deals; the mean size of deals being £75.24 million in this sample. Consequently, in the case of secondary buy-outs, venture capital firms may only resort to syndication due to capital constraints (Brander, Amit, Antweiler, 2002).

We wish to assess the influence of syndication on secondary buy-outs.

INFLUENCE OF PRIVATE EQUITY BACKING

Many firms may not have access to the necessary resources and skills to take advantage of growth opportunities, so they look for external actors who could bring them these resources; a partnership is set. Quite often the chosen partner is a private equity firm. The usual belief is that private equity firms' main task will be to monitor the management team via their representation on the firm's board. However it is also recognized that private equity firms, and even to a greater extend venture capital firms, bring an advisory dimension though their human capital contribution (Dimon & Shepherd, 2005; Gorman & Shahlman, 1989; Wright 2007). Access to their network is also a significant contribution of private equity firms (Ireland et al., 2003; Lee, Lee, & Pennings, 2001). However Barney (2002) states that the commonality of such private equity role does not create a competitive advantage between private equity backed deals; but we are not interested in this dimension. More interesting is the extent to which private equity firms can bring value to investees, in consideration on the type of deal. Private equity firm should bring complementary resources and capabilities that might be missing to the firm's managers (Zahra & Filatotchev, 2004). The impact of private equity firm experience and

intensity of post-buyout involvement of firm performance, therefore, will be contingent on the type of buyout transaction (Meuleman, Amess, Wright, Scholes, 2009). This statement establishes the possibility of different private equity backing influence on both secondary buy-out and 1st round buy-out.

There is empirical evidence that the board representation of private equity firm within company under investment has a positive effect on private equity backed buy-outs (Thompson and Wright, 1995; and Kaplan and Stromberg, 2009). Private equity representation on board also strengthens governance structure of private equity-backed firms compared to public firms (Acharya et al., 2009; Cornelli and Karakas, 2008). Considering the equity stake belonging to the private equity firm and their desire to exit the investment within a reasonable time period, create a financial incentive to take an active part into the firm's monitoring – via their board members (Cotter and Peck., 2001; and Cressy, Munari, and Malipiero., 2007). Private equity firms usually respect a strict procedure that require them to conduct due diligence on the target. This investigation on the firm will provide the private equity firm with a clear picture of the financial health and the strategy of the target, which will enable private equity investor to better monitor and advice the firm.

We wish to assess the influence private equity backing has on secondary buy-outs, compared to first-round buy-outs. As to date, no empirical analysis has been conducted on such deals. While private equity backing on first-round buy-outs tends to increase the company's performance, private equity ownership tends to decrease in secondary buy-outs, potentially influencing in a negative way their willingness to monitor and to advice the managerial team.

CORRELATION BETWEEN BUY-OUT LENGTH AND ITS SECONDARY BUY-OUT PERFORMANCE

Private equity investors, when investing into a firm, are looking to maximise their returns as to satisfy their limited partners and take advantage of such performances to raise subsequent funds. Considering such return-oriented policy it is evident that private equity firms wish to exit

their investments in adequacy with the market's highest position. Indeed, the higher the market multiples, the higher the price of sale. Following such policy, private equity firm will prefer flotation or trade sale exit as, according to market data analysis, latter exits types provide the best returns. Secondary buy-outs exit possibility would, in a return oriented perspective, only be considered if both flotation and trade sale exits cannot be concretise.

The other argument is regarding the funds' life parameter, as most of private equity fund are closed-end fund with a ten-year life expiry. It may, indeed, not always be possible to exit investments in accordance with the market's most favourable time. With the pressure created by the fund's end-of-life deadline and its necessity to exit investments, general partners will most of the time, prefer secondary buy-out exits – if possible – than to pay penalty fees or exit via divesture. Such considerations have definitely contributed to the secondary buy-outs popularity within the past decades.

However the impact of such timing issue on secondary buy-outs performance is not evident. We are going to assess the influence of the first round buy-out length to the secondary buy-out performance. We consider that the usual belief stating that first round buy-out "spruced" all the value from the target, leaving no room for performance improvement and return to the secondary buy-out is observed. If the exit to secondary buy-out is quick we would believe that the private equity firm motivation to exit the target was to respect its fund's end of life – otherwise it would have preferred a flotation or trade sale exit. In such case the initial investors would not have had the sufficient time to maximise performance and extract all the value from the firm, leaving positive return perspective to the secondary buy-out investors. This would introduce **a negative relationship between first round buy-out length of time and secondary buy-out level of performance.**

SMBO EXIT DISTRIBUTION

As previously introduced, private equity firms wish to maximise return, and the preferred exits alternatives to realise such prospect is either via flotation or trade sale. As first round buy-out

investors exited via a secondary buy-out, secondary buy-out investors could use a tertiary buy-out alternative if market conditions are not favourable. Other significant exits are divestures.

Like many studies assessing preferred exits from first round buy-outs as to illustrate markets trends. **We wish to provide similar statistics of secondary buy-outs exits distribution.**

DATA

SAMPLE

The list of buy-out deals and their exits, used for analytical analysis in this paper has been kindly provided by the CMBOR (Center for management buy-outs research). Access to such database enabled me to identify a total of 6,633 UK secondary buy-outs from 2000 to 2010. Information on the type of their first buy-out (BIMBO, buy-out, IBO, private buy-in, public buy-in), their vendors, their sources (private/public, UK/foreign origin), their date of deal, some financial information on deals (turnover, deal value, EBIT) their date and type of exit (flotation, trade sale, subsequent buy-out, receivership).

As to assess the relevance of our hypothesis presented earlier, we had to proceed to a more strict selection, as we needed to get some more specific information regarding the deals. Criteria such as syndication, private equity backing was indeed not provided for all secondary buy-outs. Further to this first step in the selection process, I had to gather all secondary buy-out deals that occurred during the 2000-2009 period, as it was this period I was interested in for my analysis – I will explain why later on. Bearing in mind that I did not only want to get my analysis ratios for the secondary buy-out period and the initial buy-out period, but also for the pre-initial buy-out period when possible, I had to gather information from two different list provided by the CMBOR. I indeed have been given a list of secondary buy-outs with their date of secondary buy-out deal and date of secondary buy-out exit; while the other list gave the date of initial buy-out transaction as well as the date of the secondary buy-out transaction – being the exit of this initial buy-out. Once I gathered all this data together, I looked into the FAME database as to get the firms accounting information. However, here again I had to narrow my sample, as I have not been able to locate all firms into the database. There are some well-known reasons explaining why I have not been able to find all these firms within FAME. The first of them would be the non-recording of small firms in such database. The second reason I invoke is the quite often-observed lack of accounting information of a firm during a year or two, which impedes a clear and relevant analysis of the firm's accounting evolution. Thirdly, resuming the first-two reasons, some small and medium UK private firms are allowed to only report abridged accounts.

All these criteria requirements and these faced limitations have narrowed my sample to 108 secondary buy-outs deals for which I had both secondary buy-outs transaction and exit date; for 49 of them I also have been able to get their initial buy-out transaction deal.

If I only selected secondary buy-out transactions settled thought the 2000-2009 period, it is due to the unavailability of some data in FAME, as for many of deals occurring previously to 2000, accounting data are classified within archives. However, omitting some possible significance limitations due to the limited size of the sample, these restrictions did not arm my analysis. Indeed, couples of academics have identified an evolution within the motives to secondary buy-outs. Perceptions of secondary buy-out as an exit alternative to distressed firms have evolved toward a more enhancing exit alternative. We, earlier in this paper, have shown that secondary buy-outs became much more popular within the past two decades, providing satisfying rate of returns, enabled through increased leverage and some other motives we wish to demonstrate. Thus this focus on the past decade secondary buy-outs, should serve better our hypothesis. In addition, deals settled decades ago, have a tendency to be under represented in today's samples and they probably share similar motives.

DESCRIPTIVE STATISTICS

In our total of 6,633 secondary buy-outs occurred between 2000 and August 2010, only 26.46% have exited, leaving a total 4,878 non-exited secondary buy-outs. It is quite interesting to note that 51% and 65% of these not yet exited investments took place before 2005 and 2006 respectively. Meaning that at least 49% and 35% of these secondary buy-outs already have respective length of life superior to 62 and 50 months. Through our 1,755 exited secondary buy-outs, trade sales, with a total of 669 transactions for 38.12%, have been the most popular exit. Then come receiverships with 37.78% of the exits alternatives, followed by 21.54% of subsequent buy-out rounds – being tertiary buy-outs in our case – and a final 2.56% of companies being introduced on stock exchanges.

	Number of deals	Proportion
Flotation	45	2.56%
Trade Sale	669	38.12%
Tertiary buy-out	378	21.54%
Receivership	663	37.78%
Total exited	**1755**	**26.46%**
Not exited	4878	73.54%
Total	**6633**	**100.00%**

Table 1.1: Secondary buy-outs exits characteristics

While trade sales are the most popular exits, they also seem to be the "cheapest" transactions according to a profit before interests and taxes on deal value ratio. Indeed, trade sale investors pay 9.96 times the secondary buy-out profit before interests and taxes (PBIT), while investors in firms to be quoted or firms that will go through a tertiary buy-out respectively pay 12.37 times and 25.47 times the PBIT. This last figure raises some interrogations. Indeed it is quite surprising that a buy-out deals would be much more expensive that a trade sale or a flotation exit, considering that these latter have been identified, and this by many academic papers, as the most profitable exits in terms on internal rate of return. We actually presented some of these results into our introduction: *Nikoskelainen and Wright (2007) as well as Jelic and Wright (2009) identified the rate of return of the different exit alternatives. The first study treated 321 UK buyouts exited between 1995 and 2004 and found out that buy-outs exited though flotation procured an internal rate of return of 137%, way ahead of trade sales (23%) and secondary buy-outs (10.5%). Jelic and Wright (2009) analysis of UK 1,225 buy-outs during 1980-2004, identified that exited via flotation earned 42% and also clearly outperformed trade sale (24%) and secondary management buy-outs (23%).*

		Flotation	Trade Sale	Tertiary buy-out	Receivership
Deal value/ PBIT	mean	12.37	9.96	25.47	-19.55
	median	11.37	10.00	12.11	13.13
PBIT/ Turnover	mean	0.096	0.100	0.034	-0.026
	median	0.070	0.075	0.086	0.037
Deal value/ Turnover	mean	1.183	0.994	0.863	0.499
	median	0.790	0.750	1.038	0.479

Table 1.2: Secondary buy-outs exits characteristics

The tertiary buy-out's deal value on PBIT ratio, computed with their respective median figure gives us a purchase price of 12.11 times the PBIT; a much plausible figure. However, as illustrated earlier in this paper, buy-outs present some major motives compared to going on public or being bought by a quoted firm. Indeed, firms exiting via a tertiary buy-out would be enabled to, once again, take advantage of a large tax shield, generated through greater leverage and larger tax-deductible interests payment. Such advantages have been well-identified by secondary buy-outs investors, and will, in the same way it has been charged to them in the first place, be considered in the transaction price settlement (Kaplan, 1989b; Rennebood et al., 2007). According to this theory, it is the high positive correlation between tax savings and premiums paid by new investors that pull tertiary buy-outs deal value on PBIT ratio above flotation and trade sale. Indeed, tax savings cannot be illustrated by the PBIT figures, as its name indicates. Furthermore, flotation and trade sale exits also occur quicker than subsequent buy-out rounds, implying less debt repaid, and its influence on price.

Also to be considered is the accounts manipulations prior to buy-outs. Wu (1997) showed that, in a surprisingly significant number of buy-outs transactions, managers manipulated the firms earning downwards prior to the management buy-out. We effectively have shown that managers' equity ownership increased from a buy-out round to another, to the extent that transaction under-pricing will benefit managers. Analysis of receiverships' PBIT on deal value ratio does not make much sense considering the actual losses of firms on average. However, the same ratio computed using median, reaches a 13.13 times score, which makes it quite comparable to other exit alternatives. Limitations of this ratio have to be considered. Indeed,

new investors' motives to purchase firms do not lie in their actual performance, but lie in its potential and perspectives of future improvement. Strategic motive for trade sales also is a key determinant in the deal value settlement.

While it seems evident, considering their respective internal rate of returns presented by other academic research, that firms to be quoted are more expensive than trade sales, it is not from our sample PBIT on turnover ratios. In truth, as to this ratio, trade sales' PBIT represent 9.98% of its turnover, outperforming the 9.56% of IPOs when these latter's deal value over turnover ratio (1.18) is higher that the trade sales' (0.99). As to justify such discrepancy, we introduce the book manipulation argument prior to trade sale. This theory, supported by some academics, assumes that the managing team in place will manipulate the firm's accounts prior to the sale as to beneficiate from greater equity valuation. Such book manipulation would be much more complicated prior to flotation as stronger regulations bodies screening would be in place.

		Flotation	Trade Sale	Tertiary buy-out	Receivership
Deal Value (£m)	**mean**	**337.72**	**82.38**	**83.84**	**23.48**
	median	79.00	15.00	27.20	5.75
	variance	286333.52	79108.74	32685.92	7100.43
	max	2140.00	3488.00	1350.00	1105.30
	min	0.71	0.13	0.06	0.05
	n	37	492	285	274
Turnover (£m)	**mean**	**285.49**	**82.86**	**97.18**	**47.02**
	median	100.00	20.00	26.20	12.00
	variance	242489.43	114505.05	97801.01	92255.70
	max	2000.00	4729.00	3300.00	5482.10
	min	5.47	0.10	1.60	0.80
	n	36	481	286	343
PBIT (£m)	**mean**	**27.30**	**8.27**	**3.29**	**-1.20**
	median	6.95	1.50	2.25	0.44
	variance	3520.28	2081.05	1899.14	1024.97
	max	234.00	806.00	133.00	130.30
	min	-39.70	-54.20	-648.00	-447.80
	n	34	455	265	287
Lenght (months)	**mean**	**29.82**	**41.13**	**43.56**	**36.98**
	median	26.00	38.00	41.00	31.00
	variance	271.24	499.75	396.89	574.64
	max	76.00	113.00	3.00	117.00
	min	1.00	1.00	3.00	3.00
	n	45	649	372	607

Table 1.3: Secondary buy-outs exits characteristics

In terms of transactions size, general trends identified from other academics papers are observed from our sample. Deal values of flotation are the largest, with a median of £79m, then comes tertiary buy-outs (£27.20m,) trade sales (£15.00m) and finally receivership (£5.75m). It is also interesting to pay attention to their mean deal values, which are much higher than their medians, illustrating the existence of some very large transactions whatever the exit type. Similar trends are confirmed via deals' turnover rankings. With a median turnover of £100.00m, secondary buy-outs exiting through IPO, are the largest in terms of revenues, followed by tertiary buy-outs (£26.20m), trade sales (£20.00m) and receiverships (£12.00m).

These statistics show some evolution between the exit trends from first-round buy-outs and secondary buy-outs. Indeed, Nikoskelainen and Wright (2007) as well as Jelic and Wright (2009) rank secondary buy-outs as the largest exit in terms of transaction size. Their respective findings, in terms of median deal value for Nikoskelainen and Wright (2007) and in terms of average deal value for Jelic and Wright (2009), are: secondary buy-out (£26.5m and £139.07m), flotation (£23.7m and £74.90m), trade sale (£25.00m and £116.89m), and receiverhip (£6.3m and £69.35m). While secondary buy-outs were already, in terms of deal value, the largest exit from initial management buy-outs, this tendency is repeated with tertiary buy-out exits.

Ranking in terms of length does not seem to be fundamentally different from observed initial buy-outs trends. The quickest exit implemented is flotation with a mean of 29.82 months, followed by receiverships (36.98 months), trade sale (41.13 months) and tertiary buy-outs (43.56 months). Medians lengths are located pretty close to average lengths, strengthening the relevance of these figures.

METHODOLOGY

ACCOUNTING PERFORMANCE RATIOS

Considering data and information availability limitations faced when studying private firms, researchers (ie. Jelic and Wright (2009), Bonini (2010)) often opt for accounting based performance analysis, as recommended by Barber and Lyon (1996). They indeed studied the relevancy of assessing a firm's performance through accounting based performance measure, statistical tests, and models of expected operating performance. Such accounting based analyses are enabled by governments lay down of minimum accounting publication requirements.

Taking in advantage of Bonini (2010) as well as Jelic and Wright (2009), research papers on buy-outs change in accounting performance; I assessed the best descriptive ratios I would be able to compute, and dressed up my own list. This list regroups ratios enabling me to assess different aspects of the firms' accounting performance, as to get a satisfying overview of its situation.

There are 10 ratios regrouped into 6 categories:

Leverage

Gearing (= Long term debt / Shareholder's equity)

Operating efficiency

Turnover per employee (= Sales / Number of employees)

Net assets turnover (=Sales / Total assets)

Return on capital employed (= EBIT / (Total assets – Current liabilities))

Profitability / Margin ratio

EBIT margin (=Earnings before interests and taxes / Sales)

Profit margin (= Net income / Sales)

Return on investment

Return on assets (= Net income / Total assets)

Return on shareholders' funds (= Net income / Shareholder's equity)

Liquidity

Current ratio (= Current assets / Liabilities)

Solvency

Solvency ratio (= (Net income + Depreciation) / Total liabilities)

MEASURE COMPARISONS AND ITS ROBUSTNESS

As I mentioned earlier, the sample since may have an impact of results significance. However a sample size of 108 transactions seems similar to the sample size of many academics papers published on similar subject. It has to be considered that these deals are settled on private firms with limited obligation to communicate its financial accounts and definitely no obligation to publish its transaction price. In addition, couples of our results are statistical significant according to t-test or p-value obtained on change in means and regression. To this extent, our sample size seems big enough to guarantee some relevant results.

While I earlier explained issues faced using FAME, my focus on secondary buy-out deals occurring within the last decade is a factor of robustness by itself as investor's motives would probably be

similar.

As to increase the robustness of my results, I did not study the ratios' change, from a year to another, but I computed their average score on a given period, and then compared them. For example, as to compare the change in return on assets of a firm before its secondary buy-out transaction to after this transaction, I computed both returns on assets average figures for a given number of years prior and post transaction. While most studies only define a specific number of years pre and post transaction date for which they compute their ratios, I wanted to consider the all secondary buy-out average score.

This enabled me to identify change pre and post transaction in a more accurate and rigorous way. In addition, such way to proceed is also consistent to Barber and Lyon (1996) findings, emphasising the necessity to scrutinise firms' performance for several years following an event (transactions in our case).

Averaged performance indicator

$$Avg.\ R = [(12 - Md)*Rt + 12*Rt+1 + \ldots + (Me-1)*Rt+n] / [(n-1)*12 + (12-Md) + (Me-1)]$$

Where *Md* is the month's number when the deal occurs, *Rt* is the ratio figure on year *t*, and *Me* is the month's number when the buy-out exit takes place. Using such formula enables me to compute, in quite an accurate way, the ratio change throughout the buy-out period. Many academics studies do not consider the year of the deal into their computations, as it includes both pre and post buy-out phases. While these concerns are totally justifiable, I prefer to weight the year's ratio to the number of months for both the pre and post buy-out periods, bearing in mind that some significant changes could take place very quickly after the change in ownership occurred. However, joining most academics reluctance to include the transaction year's ratio into their analysis, I do not include the transaction's month into mine, as I would not been able to weight it properly within my average computation. If it is the pre-first buy-out or post-secondary buy-out period, accounting data provided through FAME are given starting on January or ending in December; thus for such periods I respectively do not need to subtract the beginning of ending month of the period.

For instance, lets consider an initial buy-out settled in February 2002 and exited through a secondary buy-out in October 2006, and take into account that FAME would provide firm's accounting data from 2000 to 2009. Firstly I would establish average pre-first buy-out ratio for the 13-month period (January 2000 to January 2002), then compute the change with the average ratio on the 55-month of initial buy-out (March 2002 to September 2006), and finally compare the initial buy-out period to the average ratio on the 37-month secondary buy-out period (December 2006 to December 2009). As balance sheet and income statement figures are given for year-end, and transactions are settled through out the year, I computed my average ratio, weighting each financial year's score on their number of months within the year. The average ratio computation of the secondary buy-out described previously would be:

$$Avg.\ R = [(12 - 2)*R2002 + 12*R2003 + \ldots + (10-1)*R2006] / [(4-1)*12 + (12-2) + (10-1)]$$

Considering that accounting ratios comparisons are performed between different years through this past decade, adjustment of these ratios should be computed as to guarantee the relevancy of results obtained. If these adjustments do not entirely guarantee such relevancy, they at least strengthen the accounting ratios pertinence and witness of results obtained in a more rigorous manner.

To do so, while interested in the comparison of ratios, I first computed abnormal percentage averaged performance indicator. Abnormal means that I am interested in assessing the difference between a firm's performance ratio and its expected value. In this situation, we consider that the firm's industry peers' performance ratio as our firm's expected value. In brief, we measure, how differently our firm will differ from its peers.

Abnormal percentage averaged performance indicator

$$\%A.\ Avg.\ R\ i;s = (Avg.\ R\ i - Avg.\ R\ s\ ) / Avg.\ R\ s$$

Where, for a defined period, %*A. Avg. R i* ;s is the abnormal percentage averaged ratio of firm *i* operating in sector *s*, *Avg. R* is the period's averaged ratio for firm *i*, operating in the sector *s*, and *Avg. R s* is the averaged ratio based on the median for industry *s.* This ratio gives me the nominal difference between the buy-out firms within the sample and their respective industry peers.

Once I have computed these differences for the two periods into consideration (i.e. pre and post secondary buy-out), I want to express the change - from before to after the event – in percentage. I, consequently, apply the following formula:

Change in Abnormal averaged performance indicator

$$\Delta\%\ A.\ Avg.\ R\ i;s = (1 + A.\ Avg.\ R\ i;s\ post - A.\ Avg.\ R\ i;s\ pre\ ) / (1 + A.\ Avg.\ R\ i;s\ pre)$$

where *Δ% A. Avg. R i;s* is the change in abnormal averaged ratio for firm *i* operating in the industry *s*, , *A. Avg. R i ;s post* is the post transaction abnormal percentage averaged ratio of firm *i* operating in sector *s*, and *A. Avg. R i* ;s *pre* is the pre transaction abnormal percentage averaged ratio of firm *i* operating in sector *s*.

Such computations, according to Barber and Lyon (1996) recommendations, would enable me to rigorously – and this in a certain extent - compare my sample's ratios evolution in regards to their industry peers.

As to compute abnormal results, I had to gather each firm's Sector Identification Code (SIC) of my sample. SIC is a four-digit number assigned to every firm as to classify them within the industries they belong to. The first digit represents the broader types of industries, the second digit divide the each first digit industries into smaller categories, and so on. As to get a four-digit SIC, representing a small or less small group of industry peers.

Once I collected all SIC of the firms belonging to my sample I realise that FAME would only provide me with every SIC number trends for the 2 or 3 years prior to today's date. It would have been impossible and too restrictive to study secondary buy-out deal during such short window. In addition, changes would not have had time to be appropriately led. However I realised through my readings that many academics researchers gathered these industries trends through the Compustat database. Unfortunately I was not able to get access to such database. I tried to get a free trial but I received no update regarding my request. I finally realised that I could compute my own industries average ratios, as FAME enabled me to search via SIC. Considering the high number of different four-digit SIC represented within my sample, I decided to regroup my sample's firms under their **two-digit SIC**, as it saves some time and still guarantee a rigorous process. In addition some 4-digits SIC groups are quite small, minimising the relevancy of the adjustment. I had a total of 24 different SIC numbers throughout the 108 firms constituting my final sample. Once extracted every firms' ratios corresponding to the SIC group, I computed their median ratios for every year of the 2000-2009 period. I then have been able to calculate the weighted (in terms of months) average of the SIC group median value for the period I was interested in (pre/post initial/secondary buy-out) (see averaged performance indicator I the above).

To ensure the reliability of my statistical analysis, I also performed some data clearing and significance tests. It has been illustrated, and this through many statistical analyses, that extreme observations usually biased results obtained in an analytical way. To avoid such bias, I proceeded to some data clearing implementing a **90% Winsorisation**. This test sets the 5% lowest observations of a category to its 5^{th} percentile value and the 5% highest value to its 95^{th} percentile value. While many statistical analysis just proceed to a data trimming, which simply consists in discarding the extreme observations, Winsorising is a much more rigorous test in the way that it reduces the impact of extreme observations, but do not discard it. Results obtained are more reliable but still show, to a certain extent, the all sample values. Statistical analyses usually implement a 99% Winsorising, but considering the limited size of my sample – 108 observations, this would imply very limited flattening of extreme observations.

Once that my sample was flatten as to avoid extreme variable bias on my results, I have been able to compute both my *Abnormal percentage averaged performance indicator* and *Change in Abnormal averaged performance indicator*. However, significance tests must be ran as to proceed in a rigorous univariate analysis on performance measures. These tests will assess to what extent *Abnormal percentage averaged performance indicator* changes from the pre-initial buy-out transaction to the post-initial buy-out transaction period. It will assess significance of the change between the pre-

secondary buy-out transactions to the post-secondary buy-out transaction period, using a **t-test**. It basically consists in measuring the difference between two groups' means in regards to their respective variability. Value obtained through the t-test (the t-value) enables me to state whether the difference between pre and post event groups is not likely to have been obtained by chance finding. As we cannot say whether our sample distribution in normally distributed or not, t-test might not always be the adequate significance test measurement, due to its normal distribution requirements. To avoid this issue, we also ran a **Wilcoxon** signed ranked test. For both these tests, the null hypothesis is that change from pre and post buy-out transaction is null. In other words, means are equal, so not statistically significant.

UNIVARIATE ANALYSIS

The purpose of this analysis is to assess impacts secondary buy-outs motives, presented in the literature review, have on secondary buy-out performance. As well as their influences on performance changes from first round buy-outs to secondary buy-outs. Additional motives - in regards initial buy-outs - brought through change in ownership structure include resort to increased leverage, alignment of interest through increased managerial ownership as well as managerial informational advantage. Our analysis results are displayed into six ratio categories.

Table 2: Summary of abnormal percentage averaged performance indicators and changes in abnormal averaged performance indicators

This table represents our sample abnormal percentage averaged ratios and changes in abnormal averaged ratios (see methodology section for formula explanations) in regards to three different periods: "pre BO" (period prior to the first round buy-out), "BO" (period of the first round buy-out) and "SBO" (secondary buy-out period). Performance indicators regroup 7 categories including 10 ratios (see methodology section for additional details). "N" displays the number of observations for each category.

Robustness tests (see methodology section for additional details): a 90% Winsorisation have been implemented on the sample as to lower extreme observations impacts. Two statistical significance tests are run on the results; a t-test and a Wilcoxon test (Wlcn). Scores underlined by "x" are statistically significant in regards to their rows' tests.

			Leverage	Operating efficiency			Profitability/ margin ratio		Return on investment		Liquidity	Solvency
			Gearing	Turnover per employee	Net assets turnover	Return on capital employed	Ebit margin	Profit margin	Return on assets	Return of shareholder s' funds	Current ratio	Solvency ratio
Abnormal percentage averaged performance	SBO		126.56%	14.89%	9.01%	41.49%	28.64%	14.05%	32.83%	12.47%	-9.54%	-27.45%
		t-test	x	x	x	xx	x	x	xx	x	x	x
		Wlcn				xx	x		x	x		
	BO		103.41%	13.47%	15.78%	72.38%	34.56%	24.57%	43.51%	18.97%	-3.32%	-21.13%
		t-test	x	x	x	xx	x	x	xx	x	x	x
		Wlcn	x			xx	x	x	x	x		x
	pre BO		-6.02%	4.31%	1.09%	-2.03%	6.43%	3.02%	7.04%	3.49%	1.39%	4.78%
		t-test	xx	x			x		x			x
		Wlcn							x			
Change in Abnormal averaged performance	BO/SBO		11.38%	1.25%	-5.85%	-17.92%	-4.40%	-8.45%	-7.44%	-5.46%	-6.43%	-8.01%
		t-test	xx		x	x	x	x	x	x	x	x
		Wlcn				x						
	pre BO/BO		116.44%	8.78%	14.53%	75.95%	26.43%	20.92%	34.07%	14.96%	-4.65%	-24.73%
		t-test	xx	x	x	x	xx	xx	x	x	x	x
		Wlcn		x			x	x		x		
N	SBO		89	83	87	86	101	102	83	84	108	106
	BO		89	83	87	86	101	102	83	84	108	106
	pre BO		41	37	32	40	44	45	36	36	49	46

LEVERAGE

To assess our sample firms' recourse to leverage as to finance its activities, I computed their average **gearing** for the three different ownership periods. Gearing ratio is the long-term debt of a firm divided by its shareholders' total equity. It measures the degree to which a firm's activities are financed from creditors' funds compared to the owner's equity. I have presented the use of leverage as a major motive to management buy-out, as it enables the management team to finance additional activities and to take advantage of more growth opportunities in the same time. In addition, financing activities through debt is cheaper that through equity; in particular thanks to the creation of the tax shield. I, in the literature review, have recounted findings of academics, identifying an even greater use of leverage from first round buy-out to secondary buy-out.

Lets consider for the univariate analysis, that all outside equity investors are private equity firms – I will make the difference later in the multivariate analysis. It is evident that private equity investors select under leverage firms – (-6.02%) in comparison to their industry peers – as to proceed to a first-round buy-out. Change through first buy-out corroborates usual samples observations, as buy-out firms' gearing outperforms their peers by 103.41%, representing a 116.41% positive change. Analysis of secondary buy-out confirms the increase use of leverage from first round buy-out, as I observed a positive 11.38% change. From our sample, secondary buy-outs outperform their industry peers by 126.56%. All these results are statistically significant considering the t-test values.

Such observations strengthen the argument that private equity investors take advantage of increased leverage enabled through secondary buy-outs. The analysis of my other ratios may identify to what extent such capital structure will reward investors.

I selected the **turnover per employee ratio** as my first measure of operating efficiency. This ratio does not provide any figure on the actual return, but it highlights the effectiveness of the firm's employee force in regards to the firm's turnover. It also gives some indication on the appropriateness of the firm 's structure compared to its industry peers. While of course some sector recourse more to machinery as to generate its production and turnover, and some rely more on their employees' soft skills, an under performance in this ratio would be penalising for the firm's efficiency assessment. Such under performance would also imply an over sized employee force, breeding some unnecessary costs.

In respect to my analysis results, it seems that private equity investors select firms with turnover per employee 4.31% above their industry counterparts. Such conscious selection tendency testifies of a willingness to acquire firms already more efficient that their industry peers. Change through the first buy-out are significant, with the ratio increasing by 8.78% to reach a 13.47% over performance compared to buy-outs industry peers. Management team in charge has already succeeded to improve the turnover per employee score. It is not always clear whether buy-out changes tend to increase firms' turnover. Indeed, in many case sales increases as management has been able to lead more project thanks to the use of leverage, however, in many other buy-out cases, gains are not observable in terms of volumes, but in terms of efficiency and returns. The managerial team will proceed to the withdraw from the less profitable activities or proceed to some layoff. It is this latter resort that, most of the time, should contribute to turnover per employee increase from pre to post first round buy-out transaction. In our sample, in terms of operating efficiency, secondary buy-outs over perform their sectors' counterparts by 14.89%. However results obtained from the change between first round buy-outs and secondary buy-outs are not significant. Difference between these two different ownership structure groups does not seem to be statistically significant. We cannot, taking account of the significance test results, conclude in a relevant operating efficiency change between first round buy-outs and their secondary buy-outs.

I mentioned in the above paragraph that buy-outs' managerial team are not always looking for turnover increases, but tend to prefer efficiency and profitability increase. To do so, layoffs, withdraw from unprofitable or less profitable activities, and sales of assets are very often

conducted. While the first impact has already been partially assessed by the turnover per employee ratio, the two remaining effects will, in a way, be observed through the **net assets turnover ratio**. As to compute it, I divided firms' turnover by their total assets. This ratio measures firm's efficiency in using adequately its assets to generate sales. The higher, the better – in terms of operating efficiency. Some academics have shown that private equity investors tend to select over performing and more efficiency target, compared to their counterparts. While this statement was corroborated by our employee turnover ratio value, it is in not by our net assets turnover figure - as it shows a non-significant increase.

However buy-out over-performance improvements are observed with a significant manner. A 14.53% net assets turnover increase is experienced from pre-first round to post-first round buy-out transaction, reaching a 15.78% over-performance of first round buy-out compared to their industry peers. In regards to the secondary buy-outs effects, data analysis does not support an operating efficiency influence. Indeed, a 5.85% decrease takes place following the change of ownership structure. However, secondary buy-out firms still over-perform their industry peers by 9.01%.

I included another ratio within the operating efficiency measures: the **Return on capital employed**. This ratio is computed with the earning before interest and taxes, divided by the difference between total assets and current liabilities. It has to be greater that the firm's borrowing rate otherwise any increase in borrowing will reduce shareholder's earnings. It actually seems from the pre-initial buy-out displayed figure (-2.03%), that the return on capital ratio is not corroborating the argument that private equity investors are selecting over-performing targets. However such result is not statistically significant. Though a significant 75.95% increase between pre and post initial buy-out transaction is observed, highlighting the positive effects buy-out structure has on return on capital employed. Both first round buy-outs and secondary buy-outs significantly outperform their industry peers after their respective change in ownership. Their respective returns on capital employed are 72.38% and 41.49% above their sectors. Secondary buy-outs structures do not enable an increase in industry over-performance in regards to the latter ratio. In truth, return on capital employed over-performance decreases by 17.92% from a buy-out stage to another. It is noteworthy to mention that secondary buy-outs still largely over-perform their counterparts.

Through this three-performance ratios analysis - turnover per employee, net assets turnover, as well as the return on capital employed – we have no statistically significant results that would allow us to state that secondary buy-outs lead to an increase in performance efficiency compared to their first buy-out round. Considering both net assets turnover and return on capital employed analysis, it actually seems that the opposite evolution is supported.

Compared to their first buy-out round, secondary buy-outs seem to have a negative effect on the firm's operating efficiency. However these firms still, largely and significantly, out-perform their industry peers.

PROFITABILITY AND MARGIN RATIO

We have seen previously that secondary buy-outs do not increase firms' operating efficiency. I now want to assess if these observations will be recounted by resulting ratios. To do so I will first analyse the **EBIT margin**, being earnings before interests and taxes divided by sales. This ratio is used to assess the financial health of a firm compared to its sector's peers. It actually expresses the percentage of each currency unit that is left over once every expense – except interests and taxes – have been paid. Considering the high resort to financial leverage in the buy-out industry, it is relevant to first assess the impacts such ownership structures will have on firm's results without considering the debt-financing effect. Our next ratio: profit margin, will illustrate the final effect of such ownership structure. Once it was not statistically significant for operating efficiency, private equity investors do select industries over-performing firms as buy-out targets. Indeed, pre-first buy-outs over-perform their sector counterparts by 6.43%. Positive effects of first buy-outs are once again observed. Change from pre first buy-out to post first buy-out transaction is largely positive with a significant 26.43% increase, as first round buy-outs are 34.56% more profitable that their peers. Changes to secondary buy-outs are, for their part, the scene of a significantly decreasing EBIT margin (-4.40%) as they now only out-perform industry peers by 28.64%.

The next ratio, **Profit margin** is meant to measure how much earnings, in terms of percentage per currency unit, a firm actually keeps from its sales. Compared to EBIT margin, profit margin

takes into account the effects leverage has on the firm's profitability. While it is already significant that private equity investor select more profitable firms that the average (+3.02%), the new buy-out ownership structure enables a 20.92% gain in profit margin ratio. With respective 24.57% and 14.05%, first round buy-outs and secondary buy-outs significantly improve firms' margin in regards to their particular sectors. Here again, change from first round buy-out to secondary buy-out is negative (-8.35%).

RETURN ON INVESTMENT

My first ratio used to assess return on investment is the **return on assets** – obtained by dividing net income by total assets. It illustrates how efficiency the managerial team is in using assets as to generate earnings. In other words, return on assets express the level of earnings produced from the invested capital – comprising both debt and equity. Considering management buy-outs large recourse to debt financing as well as its little concentrated equity, this ratio takes even more relevancy in analysing leverage firms. Through our sample analysis, we can support the superior selectivity tendency of private equity investors as buy-out selected firms were already generating a return on assets superior by 7.04% than their peers. Changes observed after the initial buy-outs are very significant and very large (+34.07%), as to reach a 43.51% return on assets over-performance compared to peers. Even if secondary buy-outs keep on outperforming their industry counterparts (+32.83%), they do not create superior return than their respective first round buy-out (-7.44%).

Next ratio we focus on is the **return on shareholders' funds**, also known as the return on equity. Compared to the return on assets, it displays firms' ability to generate earnings in regards to the total equity invested by shareholders. In this ratio we do not consider the effect leverage has in financing earnings, but only focus on the very first contribution: equity. This ratio is quite often use in valuation and firms' comparison as it assess, in a way, the level of cash generated compared to the investment. We know that many investors use discounted cash flows model as a method to value firms. The higher the return on shareholders' funds, the better – as sale price should be greater. Let remind that private equity investors are much more interested in the profit stemmed from the sale of the firm (the exit) that in the dividend they could earn considering a high return on equity figure. From our sample analysis, private equity investors

seem to already select target delivering better return on shareholders' funds, however this result is not significant. Change from the pre to the post first round buy-out transaction is positive and quite significant (+14.96%), identifying the very positive effect of buy-out structure. First-round buy-outs over-perform their peers by 18.97%. Such significant over-performance is also observable for secondary buy-out firms, nevertheless the change is negative as a significant 5.46% is identified.

While first round buy-out have positive effects on operating performance and equity returns, we identified through our sample analysis that change in ownership structure to secondary buy-outs had a negative effect on the very same ratios. Results regarding first round buy-out effects are consistent with theories and evidences identified by Kaplan (1989a) and Bull (1989).

LIQUIDITY

The following measure – **current ratio** - is meant to assess firms' liquidity. It is computed as such: current assets over current liabilities, where current assets is the value of all assets expected to be converted into cash within a year time and current liabilities is the value of all debt and obligations due within the same year. Thus, the current ratio illustrates firms' ability to serve its debts and obligations in regards to its current assets. According to our sample, private investors do not select firms with better liquidity that their peers, but similar; results are not significant. We then observe that first round buy-out has a negative effect on firms' liquidity, as their current ratio is 3.32% lower than their peers, corresponding to a 4.64%. Similar trend (6.43% drop) is present when switching to secondary buy-outs, reaching a 9.54% lower current ratio than industry peers. These observations can be explained by the increase in interests' payments due to larger leverage. However, considering that we are using average value over the all buy-out period, increase in cash generated should balance this trend. Inventories reduction proceeded also tend to reduce the liquidity ratio. Drop in the ratio from the pre first buy-out to the past first buy-out transaction time is quite small, illustrating the balancing impacts latter effects have. With regards to the change between first round buy-outs and secondary buy-outs, cash generation is reduced as profit margin can illustrate, and leverage is once again larger, demanding more efforts to repay interests.

While the liquidity ratio measures a firm's ability to repay its short-term debts and obligations, solvency ratio illustrates firms' capacity to meet long-term obligations.

As already introduced in the liquidity ratio explanations, interpretation of these two ratios is quite tricky. Indeed, two main opposite effects influencing these ratios are observables: the increase in interest payments due to leverage and the increase in profit/cash generation through buy-outs incentives results. Computation of ratio average over the different ownership structure bias the results and their interpretation should be considered with some detachment. In accordance with pre first round buy-out firms lower gearing and higher profit margin/return on assets, it is logical to observe our sample higher solvency ratio in regards to their industry peers (+4.78%). Change in ownership has a negative impact on the solvency ratio score (-21.13% for a 24.73% decrease) illustrating the large increase in long-term liabilities. Similar decreasing pattern (-8.01%) is observed when changing to secondary buy-out, where the solvency ratio reaches a 27.45% lower ratio in regards to sector counterparts. Effects of leverage are very well observed through this ratio figures, illustrating a riskier situation of firm – financially speaking. Such "weakness" or better use of financing means is stronger in secondary buy-outs than in first round buy-outs.

MULTIVARIATE ANALYSIS

Thanks to our univariate anaylisis, we have assessed the change that two different types of buy-outs generate from their past ownership structure. It seems quite clear that change from first-round buy-out to secondary buy-out has a negative effect on firms' performance and returns. However, in regards to their industry peers, secondary buy-outs still display over-performance and superior returns. Through this additional analysis we wish to assess the influence some buy-out characteristics has on secondary buyout compared to its industry peers.

Variables, this analysis will observe, are impacts **first round buy-out length**, **secondary buy-out length**, **private equity backing** and **syndication** have on secondary buy-outs abnormal performance (in percentage terms compared to their respective sectors). To do so I ran a linear regression with *abnormal percentage averaged performance indicator* as the dependent variable and the four characteristics named earlier, as independent variables. Linear regression is an attempt to model the relationship between a dependent variable in regards to some independent variables. It should provide a model that measures the influence changes in each of the independents variables will have on the dependent one. Robustness of results obtained through such process must be measured as to declare change coefficient applied to independent variables as significant. If significance is proved, the coefficient allocated to independent variables would testify of the influence such characteristics have on the dependent variable; relationship evidence would be illustrated. These significance tests are automatically given by regression analysis package as they do compute **t-test** and **P-value** in the meantime.

Table 3: Influence of first buy-out length, secondary buy-out length, private equity backing and syndication in regards to secondary buy-out performance indicators

This table represents the influence first buy-out length, secondary buy-out length, private equity backing and syndication have on secondary buy-out performance indicators. These results have been obtained through a linear regression computation. Performance indicators regroup 7 categories including 10 ratios (see methodology section for additional details). "N" displays the number of observations for each category.

Robustness tests (see methodology section for additional details): a 90% Winsorisation have been implemented on the sample as to lower extreme observations impacts. Statistical significance test is run on the results; a t-test with its P-value. Scores underlined by "x" are statistically significant in regards to their P-value.

		Leverage	Operating efficiency			Profitability/ margin ratio		Return on investment		Liquidity	Solvency
		Gearing	Turnover per employee	Net assets turnover	Return on capital employed	Ebit margin	Profit margin	Return on assets	Return of shareholder s' funds	Current ratio	Solvency ratio
Intercept		102.49%	8.78%	6.97%	32.34%	23.19%	11.21%	27.01%	9.46%	-7.21%	-23.12%
	t-test	x		x	x		x	x		x	x
Length B1		-0.350%	-0.030%	-0.024%	-0.097%	-0.072%	-0.034%	-0.068%	-0.023%	-0.022%	-0.027%
	t-test	x				x		x		x	x
Length B2		-0.270%	0.064%	0.043%	0.078%	0.059%	0.021%	0.055%	0.018%	-0.019%	-0.034%
	t-test		x	x		x				x	x
PE backing		13.02%	5.04%	2.36%	4.32%	3.68%	2.02%	3.04%	3.29%	-1.89%	-3.48%
	t-test	x	x	x	x	x		x	x	x	x
Syndication		18.58%	0.98%	0.53%	1.54%	0.74%	0.32%	1.12%	-0.59%	-0.23%	-0.41%
	t-test	x	x		x	x					
R-square		0.2371	0.1123	0.1283	0.1032	0.9438	0.7721	0.6359	0.5629	0.1563	0.2148
N		95	80	87	103	87	87	93	93	108	106

LENGTH OF FIRST ROUND BUY-OUT

In the literature review I presented private equity investors preference in terms of exits. Indeed, its has been observed that flotation and trade sale are respectively the preferred exits alternatives from a first round buy-outs; as they provide grater returns. Resort to secondary buy-outs exits would only take place if both these possibilities were unconceivable. The major trouble faced by private equity investors – in such situation – is due to their funds' limited life expectancy. In addition we have shown that secondary buy-outs tend to under perform their first round buy out. My theory is that private equity investors would only proceed to a change in ownership structure – creating a secondary buy-out – if they face timing issue. In such case they would not have the necessary time to extract all value from secondary buy-outs, leaving good prospects for the new buy-out round.

Through my analysis, it seems that the first buy-out length is significantly and negatively correlated to the gearing ratio. The longer this first round, the smaller the leverage in comparison to industry peers. Short first round buy-outs must probably be better perceived by debtors and be allowed a greater resort to debt financing. However, do leverage advantages improve performance and return?

In terms of operating efficiency results, the only ratio first round buy-out length statically influence is the return on capital employed. A negative relationship is identified. Influence on others operating ratio are similar but not significant. Regarding the profitability ratios similar patterns are observed but none of the results are significant. Logically these patterns are observed on the return on investment ratios. However only the return on assets coefficient is significant. In regards to liquidity, first round buy-out length also have a negative impact on secondary buy-outs current ratio figure. Nevertheless, secondary buy-outs current ratios are below industry peers averages – switching such negative influence into a positive. The longer the first round buy-out, the lower the secondary buy-out current ratio. This illustrates the fact that first round buy-outs investors already minimised firms' current ratio throughout time, and this trend keeps on in secondary buy-outs – especially considering the increased leverage. The significant negative influence on solvency ratio corroborates this theory.

After results observation, but with some caution in regards to the limited results obtained, we could identify the negative influence first round buy-out length has on secondary buy-out over-performance of industry peers. These results introduce the possibility that first round buy-out investors only exit via secondary buy-out due to the timing issue. More value remains to extract from short life first round buy-outs.

LENGTH OF SECONDARY BUY-OUT

It would actually seem quite logical that the longer the secondary buy-outs, the greater firms' over-performance compared to industry peers. Indeed, buy-out structure has been identified as having a positive impact of firms' performance in regards to their counterparts. The more time to implement and take advantage of these mechanisms, the better results should be. However it has been observed that exits through flotation and trade sale – the more profitable ones – tend to occur quite quickly, which would imply that these firms are performing better. Nevertheless, such firms usually still have large amount of debt and little cash generation power; the all value remains in the growth potential – or strategic advantage for some trade sales. In such case, longer buy-out life should enable these performances increase – to a certain extent because if the buy-out is too long, it may witness of some improvement limitations.

As per my analysis observation, only half of my ratios show statistical influence. Effect of leverage is not significant, but a negative influence would be observable; confidence of debtors might decrease with time. I terms of operating efficiency, both turnover per employee and net assets turnover display the positive impact secondary buy-out length has on their performance. The EBIT margin, of the profitability category also shows significant positive influence. Finally, a negative relationship is identified between secondary buy-out length and both their liquidity and solvency ratios. The longer the buy-out, the more current ratios and solvency ratio are minimised due to increase in debt and interest repayments.

Indeed, the more time allowed for buy-out mechanisms implementation, the greater operating performance and profitability improvements. However our results are quite restrictive to few ratios and impacts amplitude is not easy to measure.

PRIVATE EQUITY BACKING

Many papers illustrated the positive influence private equity backing has on buy-outs performance, profitability and returns, but I wanted to check if these effects remain present in secondary buy-outs. Through their presence on board, private equity investors monitor managers, advice them and also implement new governance structure. Considering the increase in managerial team ownership to the detriment of private equity investors, the latter might consider to reduce their monitoring lowering performance and returns. However, managers self-monitoring should balance the situation.

As per my analysis results (21 non-private equity backed firms out of 108 firms), secondary buy-outs private equity monitoring effects are consistent to first buy-out effects. Indeed, private equity backing has a significant positive influence on leverage ratio (gearing), operating efficiency ratios (turnover per employee, net assets turnover, return on capital employed), profitability ratio (EBIT margin) and return on investment ratios (return on assets, return of shareholders' funs). Only relationship on profit margin is not statistically significant; it however seems to be positive. Statistically significant negative impact on both liquidity and solvency measures highlights greater liabilities and interest repayments due to higher private equity resort in leverage. These investors are also known to largely reduce stocks. Noteworthy is that higher net income still is offset by debts' impacts.

SYNDICATION

Considering the larger size of secondary buy-outs (Nikoskelainen and Wright, 2007, as well as Jelic and Wright, 2009), resort to syndication have for investors, been a way to finance larger

deals and diversify their portfolio to a greater extent. It also enables better screening and selection process (Cumming, 2006a; and Lerner, 1994). In addition such diversification reduces cost of monitoring as - according to the free riding behaviour hypothesis (Cumming, 2006b) - minority investors tend not to actively participate into monitoring, leaving the lead investor as only supervisor. However such behaviour reduces the effect of complementarities between syndicated members. Furthermore, syndication usually implies agency costs that may offset their previously mentioned advantages.

From my sample analysis (31 syndicated deals out of 108), we can see the positive effect syndication has on firms' ability to finance its activities via debt, as leverage displays a significant increase. However, syndication positive effects on performance and return indicator are not evident. Some measures of operating efficiencies (turnover per employee and return on capital employed) show a significant positive relationship with syndication – probably due to increased leverage. Effects on EBIT margin are also significantly positive. However, other profitability of return on investment ratios do not illustrates such positive relationships.

While syndication had a positive effect on performance, returns are not affected, probably due to agency costs offsetting the obvious advantages of syndication.

CONCLUSIONS

Throughout practical and academic research conducted during the 80s and 90s – corresponding to the first wave of buy-outs – a good understanding of buy-outs motives and mechanisms has been developed. Exits from such ownership structures present different alternatives. While in past decades, secondary buy-outs were considered an exit opportunity to distressed first round buy-outs, such perceptions have evolved. In the last decade, resorts to secondary buy-outs were much more frequent, creating a true enthusiasm towards this new exit alternative. Many interrogations were raised on new determinants to such ownership structure; however the understanding of secondary buy-outs motives is still limited.

Considering motives to first round buy-outs, I assessed to what extent these advantages evolved throughout the change in ownership structure. Principal identified motive to buy-out deals is the resort to leverage, using limited ownership and large level of debt to finance firms. Governance structures implemented through private equity monitoring and the managerial team alignment of interests have been identified as the key mechanism to performance and return improvement. In addition, while private equity investors usually change through the change in ownership, managers tend to remain in the firm, especially in view of managerial team informational advantage on the fair value of the firm. While all these mechanisms – which contributed to buy-outs success – remain and often take a greater dimension in secondary buy-outs, firms' performance and returns should increase from first round buy-outs to secondary buy-outs. However, the usual belief consider that investors from the first round buy-out "spruced" all the value from the firm, leaving limited performance and return improvement perspective to subsequent buy-out round.

I attempted to challenge this later argument through my sample analysis. From a 6,633 UK secondary buy-outs sample occurring between 2000 and August 2010, I have selected – bearing in mind issues faced during that process – a total of 108 exited secondary buy-outs (2000-2009 period). While first round buy-outs effects are once again verified through this analysis, I have not been able to illustrate a positive change in operating performance, profitability or return on investment from secondary buy-outs compared to their first round buy-outs figures. These ratios are actually significantly and negatively impacted. In regards to the secondary buy-outs

motives previously enumerated, the only mentioned mechanisms evolving as predicted is an increased resort to leverage, involving deterioration in the firm's solvency and liquidity. Results from this analysis illustrate the inefficiency of secondary buy-outs increased motives in regards to their respective first round buy-outs. Analysis of my sample actually brought greater support to the statement illustrating how much first round buy-out investors drain all the value from the firm, leaving limited performance and return improvement perspective to secondary buy-out round. Noteworthy is the strong superior operating performance, profitability and return on investment secondary buy-outs still display on their industry peers.

Considering these negative changes in performance indicators due to the change in ownership, I wanted to verify that well-know positive effects of private equity backing and syndication remain in subsequent buy-outs. To do so I ran a linear regression assessing the influence such characteristics have on secondary buy-outs performance indicators in regards to their industry peers. While effects remain strongly positive for private equity backing due to its superior governance implemented through monitoring, effects of syndication are limited – introducing the belief that superior screening is offset by agency costs. In addition, both private equity backing and syndication enable a greater resort to debt financing. Length of first round buy-outs was also assessed. While results are limited, first round buy-out length seems to negatively impact secondary buy-out performance. Supporting my belief – to a limited extend – that the shorter the first round buy-out the greater the improvement perspective left to a subsequent buy-out. This is consistent to the belief that first round buy-outs investors would only exit through secondary buy-outs if neither flotation nor trade sale are possible – coherently with the return-oriented behaviour. Finally, relationship between secondary buy-outs length and their respective performance indicator results is also limited to some positive influence. I identified that the more time allowed for secondary buy-out mechanisms implementation, the greater operating performance and profitability improvements.

While my observations from the univariate analysis are very satisfying, relationships identified through the multivariate analysis are, in some ways, limited. Although change from first round buy-out to secondary buy-outs only showed negative impacts on operating performance, profitability and return on investments, illustrating the limited effects of secondary buy-outs improved motives, it appears that secondary buy-outs still outperform industry peers in regards to the performance indicators mentioned earlier. Considering such over-performance, following

researches could assess in greater details to what extent secondary buy-outs are a satisfying investment opportunity – they obviously are less satisfying that first round buy-outs.

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